**Shaw Environmental, Inc.**

2440 Louisiana Blvd NE, Suite 300
Albuquerque, NM 87110
Phone: 505.262.8928

Shaw Environmental, Inc.

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**Subject:** **LNAPL Containment Well Development**
**LNAPL Containment Interim Measures Work Plan Part I - Characterization, Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111**
**Addendum January 2012**
**Kirtland Air Force Base, New Mexico**

This letter is being submitted as an addendum to the Light Non-Aqueous Phase Liquid (LNAPL) Containment Interim Measures Work Plan (Work Plan), prepared by Shaw Environmental and Infrastructure, Inc. (Shaw) for the U.S. Army Corps of Engineers (USACE) under contract W912DY-10-D-0014, Delivery Order 0002. This letter describes Shaw's proposal to conduct an enhanced well development in place of the proposed pumping test (Section 5.3.1).

Section 5.1.3 describes a series of pumping tests that would be performed on the containment well. Shaw proposes replacing the proposed pumping tests with an enhanced well development at KAFB-106157 in order to determine the well specific capacity needed to complete the design of the full containment system. The enhanced well development will entail:

- Standard purging and swabbing of the well screen, as described in Section 6.3.6 of the Work Plan.
- The well will be pumped for 4 to 8 hours using the well development pump to remove particulate matter from the well..
- An 8-hour constant discharge pumping test will be conducted to determine the specific capacity of KAFB-106157. The well development pump will be used for this test and the rate will be between 15 and 25 gallons per minute (gpm). The well will be undisturbed for a minimum of 12 hours prior to start of the 8-hour pumping test.
- A pneumatic slug test will be performed following the procedures in Section 5.1.2 of the Work Plan.

Water levels in KAFB-106157 will be monitored using an In-Situ transducer Troll 500 or equivalent. Water levels will be recorded on a logarithmic time interval for the duration of the test. Flow rates will be monitored using a standard totalizing water meter. Water levels in well KAFB-106082 will be monitored manually during the test.

It is estimated that the volume of waste water associated with the enhanced well development will be 20,000 to 30,000 gallons. Waste water associated with the enhanced well development will be run through a mobile 200-pound granular activated carbon (GAC) unit that can accommodate 25 gpm at 5 pounds per square inch backpressure. The GAC unit will treat the waste water to reduce the benzene concentrations to less than the hazardous concentration (0.5 milligrams per liter) prior to being placed in 20,000 gallon frak tank(s). The waste water will then be sampled for waste characterization; disposal of the waste water will be completed in accordance with the Groundwater Quality Bureau Discharge Notice of Intent to Discharge rules and regulations; this is the same method applied to purge water associated with groundwater monitoring wells at the site.

The duration of well development will be approximately 3 days, once the subcontractor arrives on site. Once approval to this letter is received, the subcontractor will be scheduled and the exact start date will be dependent on subcontractor availability. Shaw estimates completion within 45 days of the receipt of approval of this letter.